

# SphereCasting with Science On a Sphere



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This page is the place to learn about SphereCasting in detail, find out about upcoming SphereCast events, and review the process to participate in SphereCasting.

## SphereCasting Update for SOS 5.0.0+

- The SOS SphereCasting software infrastructure has been upgraded to use much newer versions of the underlying libraries (OpenFire server and Smack client).
- Due to incompatibilities between the old and new versions of these libraries, any SOS system that will be hosting a SphereCast will need to be running SOS 5.0. SOS systems running 4.3 will still be able to view SphereCasts.
- **frink.fsl.noaa.gov**, the NOAA server used for many years to support SphereCasting was shut down and a replacement server, **ato-webprod.gsd.esrl.noaa.gov**, is now in place.
- Due to heightened government security restrictions, at the time of the 5.0 release, the new server was not ready to accept public connections. We will remedy this as soon as possible, but **for now NOAA will not be able to conduct any SphereCasts. We will make an announcement when SphereCasting becomes available again. Thank you for your patience.**

## When is the Next SphereCast?

**No SphereCasts are currently scheduled.**

Interested in hosting a SphereCast? Do you have a planned event or upcoming lecture featuring Science On a Sphere® that you'd like to share with the rest of the SOS community? Let us know!

- **Playlist file to download:** None at this time
- **Custom datasets to download:** None at this time
- **Video Stream Link:** None at this time

## What is SphereCasting?

A SphereCast is an SOS presentation done simultaneously at multiple sites by a single presenter, via the Internet. Many sites can receive the SphereCast, but only one site is the host presenter. There are **two components to a SphereCast**: (1) Remote control of a presentation on an SOS system, and (2) A live video lecture of the presenter that accompanies the SOS presentation.

### 1. Remote Control of a Presentation

Remote control of the SOS system means that whatever commands the presenter issues to the SOS system at the host site are immediately replicated on all the SOS systems that are watching the SphereCast. So, when the presenter loads a new dataset, that data is loaded on all the watching systems. When the presenter starts or stops the animation, or orients the sphere, all the remote spheres behave identically.

The remote control software component is specialized SOS software (already installed on your SOS computer). This software connects to an XMPP server running at ESRL in Boulder, Colorado (NOAA's Earth System Research Laboratory, the home of SOS). An external internet connection to the SOS computer is required to run this software.

### 2. A Live Video Presentation

The streaming video component works similarly to other live webcasts you may have viewed. At ESRL, we are currently using the Apple QuickTime technology for broadcasting and receiving the video. Since the video streaming part of a SphereCast is independent of the sphere control part, other hosting sites may use a different solution for video streaming, or even an audio-only solution. Other video streaming technologies that have been used by various sites include Google Hangouts and Blue Jeans.

**The rest of this documentation assumes that the streaming QuickTime server at ESRL will be used for video streaming. If this is not the case for the scheduled SphereCast, you can ignore those instructions in the text and special instructions will be provided on the [SphereCasting homepage](#) for the particular video streaming technology that will be used when the SphereCast is scheduled.**

## How to Receive a SphereCast

- [How to Receive a SphereCast](#)

## How to Host a SphereCast

- [How to Host a SphereCast](#)